

REMARKS

Claims 1-17 remain pending in the present application. Claims 1, 8 and 9 have been amended. Claims 11-17 are new. Basis for the amendments and new claims can be found throughout the specification, claims and drawings originally filed.

REJECTION UNDER 35 U.S.C. § 102

Claims 1-4 and 6-8 are rejected under 35 U.S.C. § 102(b) as being anticipated by Stolberg (EP 0889244 A2). Applicants respectfully traverse this rejection.

Claims 1 and 8 have been amended to define that the needle is supported such that the downstream end of the needle is always positioned downstream with respect to the fluid outlet port of the nozzle between a small flow amount and a large flow amount jetted from the outlet port. As defined in new Claims 11 and 12, this support for the needle can be such that the needle is fixed or movable but it is always positioned downstream of the fluid outlet port. Therefore, a nozzle jet flow along the outer peripheral surface of the protruded part of the needle can be regulated, and a boundary face of the nozzle jet flow of the fluid jetted from the fluid outlet port of the nozzle has a balanced shape due to the protruded part of the needle.

Stolberg (EP 0889244 A2) shows in the drawings that the tip end of the needle is upstream of the nozzle outlet. EP 0889244 A2, column 3, lines 53-56 describes that "allowing the needle to extend through and beyond the nozzle 2". However, there is nothing described regarding the needle always being downstream of the nozzle outlet and the above-described features of the present invention with the nozzle jet flow along the outer peripheral surface of the protruded part of the needle. In EP '244, when the

tip end of the needle is positioned upstream of the nozzle outlet, a balanced shape of the nozzle jet flow cannot be formed.

Thus, Applicants believe Claims 1 and 8, as amended, patentably distinguish over the art of record. Likewise, Claims 2-4, 6 and 7, which ultimately depend from Claim 1, are also believed to patentably distinguish over the art of record. Reconsideration of the rejection is respectfully requested.

REJECTION UNDER 35 U.S.C. § 103

Claims 5, 9 and 10 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Stolberg in view of Takeuchi, et al. (U.S. Pat. No. 6,550,265). Applicants respectfully traverse this rejection.

Claim 5 ultimately depends from Claim 1. As discussed above, Claim 1 has been amended and is now believed to patentably distinguish over the art of record. Thus, Claim 5 is also believed to patentably distinguish over the art of record. Reconsideration of the rejection is respectfully requested.

Claim 9 has been amended in the same manner as Claim 1 and thus the discussion above regarding Stolberg applies here also. In addition, Takeuchi, et al. does not disclose the needle which is always positioned downstream with respect to the fluid outlet port as defined by amended Claim 9.

Thus, Applicants believe Claim 9, as amended, patentably distinguishes over the art of record. Likewise, Claim 10, which depends from Claim 9, is also believed to patentably distinguish over the art of record. Reconsideration of the rejection is respectfully requested.

NEW CLAIMS

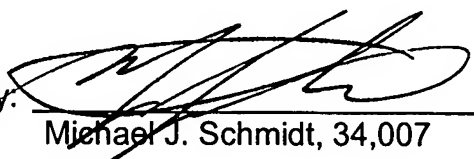
New Claims 11-17 are dependent claims which Applicants believe properly further limit Claim 1.

CONCLUSION

It is believed that all of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicants therefore respectfully request that the Examiner reconsider and withdraw all presently outstanding rejections. It is believed that a full and complete response has been made to the outstanding Office Action and the present application is in condition for allowance. Thus, prompt and favorable consideration of this amendment is respectfully requested. If the Examiner believes that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at (248) 641-1600.

Respectfully submitted,

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